

REMARKS

The Office Action has been carefully reviewed. Claim 1 presently appear in this application and define patentable subject matter warranting its allowance. Reconsideration and allowance are hereby respectfully requested.

Claim 1 is amended, and support for the amended claim language is found in the original claims and in the specification on page 27, first paragraph and on pages 35-29 (Examples A-1 and A-2).

The applicants believe that amended claim 1 contains no new matter and that the specification provides enablement for the amended claim 1. The claimed recombinant thermostable enzyme can be easily obtained by one of skill in the art based on the amino acid sequence of SEQ ID NO:1 disclosed in the specification, through the following conventional steps:

1. Producing variants of SEQ ID NO:1 by replacing one or more amino acids in SEQ ID NO:1 with other amino acids, deleting one or more amino acids in SEQ ID NO:1, or adding one or more amino acids to the N-terminus of SEQ ID NO:1;
2. Screening the obtained variants, i.e., candidates, for the physiochemical properties as defined in (1) and (5) of the amended claim 1; and

3. Selecting candidates which have the physicochemical properties as defined in (2) to (4) of the amended claim 1.

According to the above processes, information about the positions of amino acids to be replaced or deleted is not necessary to obtain a recombinant thermostable enzyme as defined in amended claim 1. Furthermore, while the processes as mentioned above may require time and labor, they are not considered to involve undue experimentation, because screening and selection of the variants for their physicochemical properties as defined in (1) to (5) of the amended claim 1 are relatively simple routine experimentation for one of skill in the art.

Attached hereto are pertinent pages of "Molecular Biology of the Gene", 4<sup>th</sup> Edition, The Benjamin/Cumming Publishing Company, Inc. (1987). As shown in this reference text it had been known to one of skill in the art even in 1987 that variants having expected enzymatic activity can be obtained by replacing, deleting or adding one or more amino acids once an amino acid sequence of the original enzyme is given. The instant specification, from page 26 to 27, refers to the technique such as disclosed in the attached pertinent pages of "Molecular Biology of the Gene. Thus, the specification is believed to provide enablement for amended claim 1 when the state of the art is taken into account.

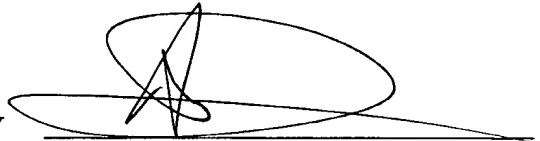
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Amd. dated December 22, 2003  
Reply to Office Action of July 30, 2003

Reconsideration and withdrawal of the outstanding 35  
U.S.C. §112, first paragraph rejections are respectfully  
requested.

In view of the above, the claim complies with 35 U.S.C.  
§112 and defines patentable subject matter warranting its  
allowance. Favorable consideration and early allowance are  
earnestly urged.

Respectfully submitted,

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